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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,841	02/01/2001	Ken Sakuma	0113197-002	1155

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EXAMINER

KAO, CHIH CHENG G

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/775,841

Applicant(s)

SAKUMA ET AL.

Examiner

Chih-Cheng Glen Kao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

Fig. 4, #26b and 26c

A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. ("Fluorinated Polyimide Waveguides with Low Polarization-Dependent Loss and their Applications to Thermo-optic Switches") in view of Yamashita et al. (JP 59-33430). Kobayashi et al. discloses an optical switch comprising:

a cladding layer and polymeric core (Fig. 3, and Page 1024, col. 1, last paragraph),

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a width of the core enlarged at a branching to provide plural branched cores to alter a propagation path by selective heating (Fig. 9a and 9b),

unitized heaters (Fig. 9a, "Heater 1" and "Heater 2") that are thin film (Page 1025, col. 2, 2<sup>nd</sup> paragraph),

a Y-shaped core having two branched cores (Fig. 9a).

However, Kobayashi et al. does not seem to specifically disclose wherein a branching section heater and branched core heaters are controlled separately as a set.

Yamashita et al. teaches a branching section heater and branched core heaters controlled separately as a set (Fig. 1, #6, 7, and 8, and Fig. 3).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the branch heaters of Yamashita et al. with the device of Kobayashi et al., since one would be motivated to attain a high extinction ratio, by providing heating electrodes independent from each other as shown by Yamashita et al. (Abstract, Purpose).

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. in view of Yamashita et al. as applied to claim 1 above, and further in view of Cohen et al. (US Patent 5418868). Kobayashi et al. in view of Yamashita et al. suggests a device as recited above. However, Kobayashi et al. does not seem to specifically disclose a minimum distance of 40 um or more from a branching core heater and a center of the core adjacent.

Cohen et al. teaches a minimum distance of 40 um or more from a branching core heater and a center of the core adjacent (col. 5, lines 60-69).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the distance of Cohen et al. with the device of Kobayashi et al. in view of Yamashita et al., since one may be motivated to affect only one core when making the change as needed in Cohen et al. (Fig. 1, #120 and 115).

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. in view of Yamashita et al. (JP 59-33430) as applied to claim 1 above, and further in view of Ooba et al. ("Low crosstalk and low loss 1x8 digital optical switch using silicone resin waveguides"). Kobayashi et al. in view of Yamashita et al. suggests a device as recited above. However, Kobayashi et al. does not seem to specifically disclose combining in plural optical switches.

Ooba et al. teaches combining in plural optical switches (Fig. 1).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the plural optical switches of Ooba et al. with the device of Kobayashi et al. in view of Yamashita et al., since one may be motivated to send one signal to multiple locations as seen in Fig. 1. Secondly, the combining of plural optical switches is conventional and a plurality of combinations can be created as shown by Ooba et al. (Page 1364, top of col. 2). It would have just been a matter of engineering efficiency to combine plural switches together based on the communication system one may want to set up. This is within routine skill to one having ordinary skill in the art.

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*Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (703) 605-5298. The examiner can normally be reached on M - Th (8 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



gk  
July 1, 2002

  
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